Some New or Little Known Species of Higher Flies from the Ethiopian Region (Diptera: Calliphoridae)

by

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This paper is one of the preliminary results of a study of the Ethiopian Calliphoridae. Many museums and institutes as well as private collectors have kindly sent me their fly material which will enable me some day to give a fairly complete revision of this family in Africa south of the Sahara. The following descriptions and notes are based mainly on material which I have received from Dr. C. H. Curran, American Museum of Natural History, New York, and from Dr. F. van Emden, Commonwealth Institute of Entomology, London. I wish to thank these two colleagues for their help and advice.

The abbreviations used in these papers are explained as follows:—

Head bristles.

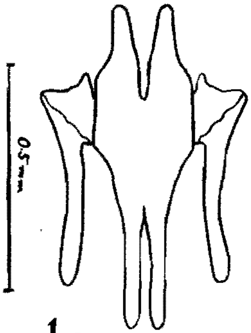
iv = inner vertical
ev = outer vertical
pvt = post vertical
oc = ocellars
paf = parafrontals and parafacials
f = frontals
fo = fronto-orbitals
vi = vibrissae

Thoracic bristles.

ac = acrostichals
dc = dorsocentrals
ia = intra-alars
ph = posthumerals
h = humerals
prs = presuturals
sa = supra-alars
n = notopleurals
pa = post-alars
sc = scutellars
st = sternopleurals
pp = propleurals
pst = poststigmatics

Leg bristles.

ad = anterodorsal
av = anteroventral
pv = posteroventral
pd = posterodorsal



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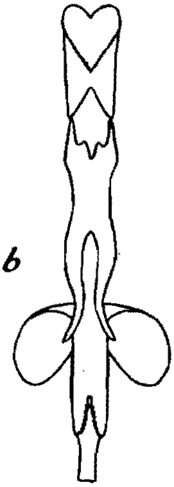

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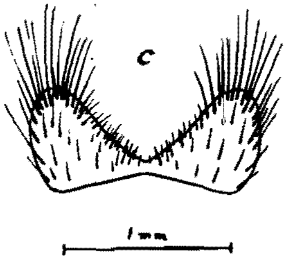

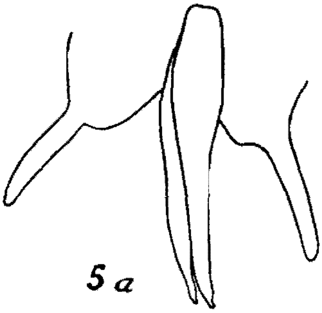

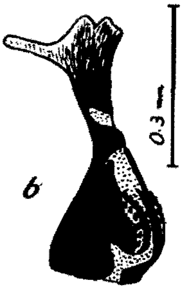

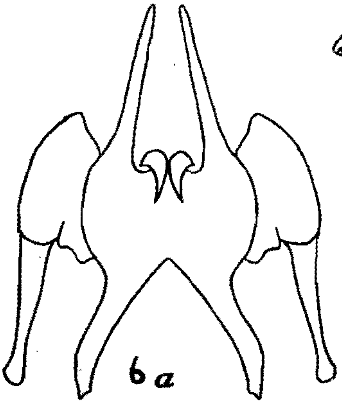

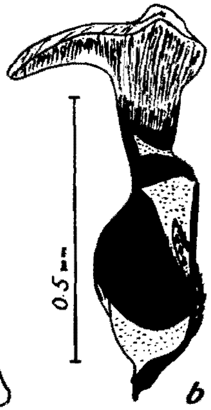

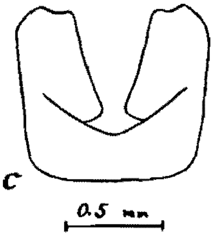

Chrysomyia vanemdeni n.sp.

On my expedition to the Tanganyika Territory in 1938, I collected in the Southern Mountains near Mufindi, at an altitude of about 7,000 ft., a great number of specimens of a *Chrysomyia* species which was closely related to *C. atrifrons* Malloch (1925), a species present in, and kindly lent to me by the British Museum. Both species are easily separable from the bulk of the Ethiopian *Chrysomyia* species by the broad frons in the male sex, by the absence of presutural dorsocentral bristles and by the presence of a glossy, undusted spot on the buccae. The distinguishing features between *C. atrifrons* and the species from the Southern Highlands of Tanganyika lie chiefly in the different widths of the frons in both sexes and in the structure of the hypopygium. I first thought that the second species would belong to *C. polymita* Villeneuve (1914) which had been insufficiently described from the Northwestern part of the colony. The drawing of the hypopygium, however, which Seguy (1928) gives in his revision of the Chrysomyiini coincides perfectly with the hypopygium which I dissected from the London material, so that *atrifrons* and *polymita* had to be united, the latter having the priority. This was conclusively proved by checking the typical material, including the holotype, forwarded to me through the kindness of Dr. Beier, curator of the museum of Natural History in Vienna. The species collected by me is therefore new, and I am very glad that I am allowed to name it in honour of Dr. F. van Emden, the meritorious dipterist of the Commonwealth Institute of Entomology, London.

Male — Frons almost parallel, width about half the eye-length (one-third in *polymita*), totally dark; frontal stripe black to dark-brown, parafrontalia glossy black-blue in the upper half, in the lower half black and yellowish tomented like the parafacialia; parafrontalia broad, at the tip of the ocellar triangle measuring about two-thirds of the frontal stripe. Eyes oval (5:3), upper facets not enlarged. Face and antennae black-brown, the former whitish dusted, third antennal joint 2½-3 times as long as the second. Buccae half as high as the eye, black, anterior part with a more or less enlarged glossy spot, posterior part densely greyish dusted. Vibris-

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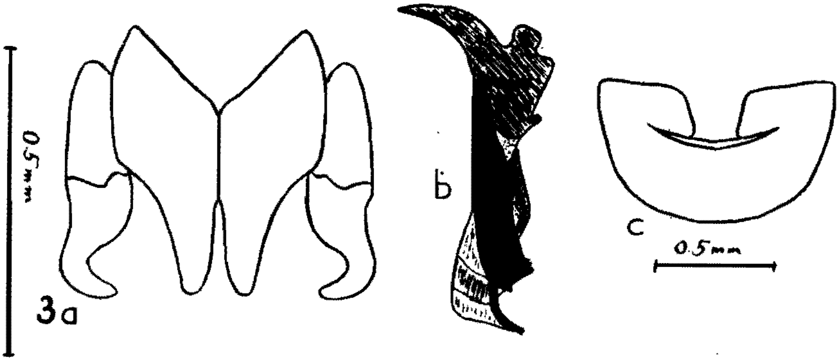
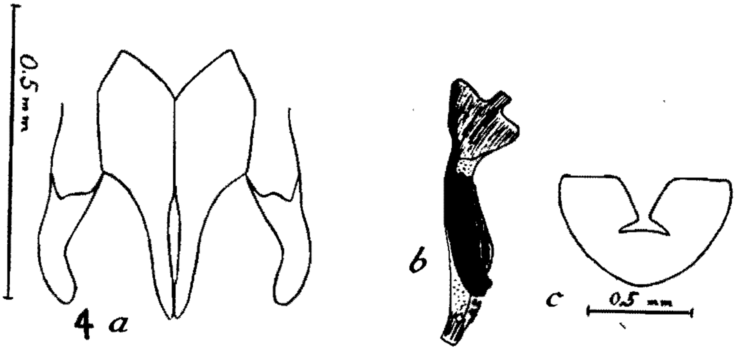
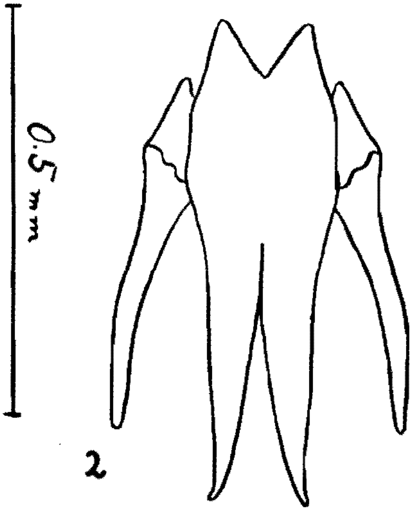
FIGURES

1. ***Male terminalia of Chrysomyia vanemdeni n. sp.***
   (a) frontal view of cerci.
   (b) phallosome.
   (c) fifth sternite.
5. ***Male terminalia of Keniella martini n. sp.***
   (a) cerci, turned slightly laterally.
   (b) phallosome.
6. ***Male terminalia of Keniella claripennis (Séguy).***
   (a) frontal view of cerci.
   (b) phallosome.
   (c) fifth sternite.







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sarium and mediana are more or less lighter brownish coloured. In spite of the broad frons, only *iv* developed, *oc* and *f* present, but only slightly thicker and longer than the surrounding hairs, *fo* wanting but parafrontalia and upper part of the parafacialia densely beset with long black hairs, *paf* reach the middle of the second antennal joint, facial ridge on the lower half with black, bristly hairs, vibrissa long, peristomal bristles black, buccal hairs mostly yellowish, in the anterior part black. Palpi brown, straight, gradually widened terminally, proboscis blackish.

Thorax dark blue and violet, with a *chloropyga*-like pattern, whitish dusted, especially the frontal part. Chaetotaxy: *ac* = 0+1, *dc* = 0+1, *ia* = 0+1—2, *ph* = 0, *h* = 3, *prs* = 1, *n* = 2, *sa* = 3, *pa* = 2, *sc* = 4+1, 1 thick *pst* and *pp*, *st* = 1:1, propleura, prosternum and alar-declivity haired. Prostigma bright yellow, poststigma dark brown. Wings with the costal area and the base totally deep brown, otherwise hyaline, both the squamae for the greater part black-brown, the lower one with long hairs on the disc, halter dark brown. Legs black to black-brown, front tibia with a few *ad* bristles but no ventral ones; mid-tibia with one submedian *ad*, *av* and *pd*, of the latter sometimes 2 present as e.g. in the holotype; hind-tibia with a longer, more or less median *ad*, *pd* and *av*.

Abdomen metallic, the first two visible segments dark blue or violet, the last two green with a broad dark band at the posterior border of the third. Hairs on the dorsal side black and soft, on the ventral side longer and yellowish. Hypopygium (Fig. 1) big, with terminally broadly rounded cerci and paralobi, whereas those of *C. polymita* (Fig. 2) are more or less pointed.

Female — Frons at the vertex measuring 5/8 of eye length (½ in *polymita*), distinctly widened towards the antennal groove. Buccae a little more than half the height of the eye. Third antennal joint, more than 3 times as long as the second. With regard to the chaetotaxy of the head, the *ev* is developed and *oc* and *f* are longer and more distinct than in the male, but *fo* are wanting too. Other features as in the male.

Length: 7-10 mm.

Distribution: The description is based on 7 males and 11 females from Mufiindi, near Iringa, Tanganyika Territory, leg. Zumpt, October, 1938,

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FIGURES

2. ***Frontal view of cerci of Chrysomyia polymita Villen.***
3. ***Male terminalia of Phumosia molaris n. sp.***
   (a) frontal view of cerci.
   (b) phallosome.
   (c) fifth sternite.
4. ***Male terminalia of Phumosia snyderi n. sp.***
   (a) frontal view of cerci.
   (b) phallosome.
   (c) fifth sternite.

on carcass. Holotype ♂ and paratypes in the South African Institute for Medical Research, 2 ♂ and 2 ♀ paratypes presented to the British Museum. I have received a further female from Dr. E. Lindner, who collected it on the Kibo (2,800 m.) in April, 1952 (in the collection of the Museum of Stuttgart).

Phumosia molaris n.sp.

This species is very similar to some specimens which I received from the Belgian Congo and the Sudan and which I believe to represent Villeneuve's *pseudolucilia.* The only reliable feature separating these two species, lies in the shape of the hypopygium, the cerci of which are stouter in *P. molaris,* and distinctly and constantly more slender in the other species. Whether the yellow palpi and the lighter coloured tarsi in *Ph. molaris* are constant features, is doubtful, and can only be ascertained when additional material becomes available.

Male — Eyes very close together, frons at the narrowest point not broader than the anterior ocellus; frontal stripe black or red-brown, triangular in shape; parafrontalia and -facialia whitish dusted, the former with a few very short setae, the latter bare; about 10 pairs of parafrontals, *oc* and *iv* strong; antennae yellow-brown, the last joint more or less black-brown, 2½-3 times as long as the second; vibrissa long, peristomal and buccal hairs black, Buccae and occiput black, shiny, weakly pollinose, the former measuring only 2/9 of eye length. Vibrissarium reddish. Palpi yellow, clubshaped.

Thorax metallic dark blue, only very slightly pollinose, the dusting not forming a distinct pattern. Chaetotaxy: $ac = 1+1$, $dc = 2+4$, $ia = 1+3$, $ph = 2$, $h = 3$, $prs = 1$, $n = 2$, $sa = 3$, $pa = 2$, scutellum with 4 pairs of long marginal and 1 pair of discal bristles. Pro- and poststigma black or black brown, 1 *pst* and 2 *pp*, $st = 2:1$. Propleura, prosternum and alar-declivity haired. Wings deeply brownish tinged, costal spine distinct, R^5 widely open, costal sclerite bare, $r_{4,5}$ dorsally with setae half way, or a little more to *r-m;* thoracic squama narrow, deep brown; halter yellow at the base, dark brown terminally. Legs with the femora and tibiae dark or black-brown; tarsi lighter brown; fore-tibia with 3-4 *ad* and one submedian *pv;* mid-tibia with a submedian *ad, pd, av* and 2 *pv;* hind-tibia with 3 *ad,* 2 *pd,* and 2 *av.* Tarsi and pulvilli of normal length.

Abdomen broader than long, glossy, dark blue like the thorax, the hind margins of the last three segments narrowly blackened. Fifth sternite with a deep incision; hypopygium with stout cerci and hook-shaped paralobi (Fig. 3).

Female — Frons at the vertex almost half as wide as the eye is long (4:9), nearly parallel to the antennal groove. Chaetotaxy of the head complete, anterior *fo* very long.

Length: 5-9 mm.

Biology: Nothing known.

Distribution: Bendu, near Robertsport, Liberia, 12 ♂, 8 ♀, leg. F. M. Snyder, 4th November, 1942, and 2th, 3rd October, 1943. Holotype ♂ in the American Museum of Natural History, New York, 3 pairs of paratypes in the Entomological Department of the South African Institute for Medical Research, the others in the American Museum.

Phumosia snyderi n.sp.

This species is closely related to *Ph. bicolor* with which it agrees in the general shape of the body. However, it is generally more darkly coloured. The thorax and abdomen are black with a greyish-olive pollinosity. The darker pattern consists of more or less distinct longitudinal stripes on the thorax and narrow posterior bands as well as a median stripe on the abdominal segments. The legs have blackish femora, the remaining joints being dark to light brown. Chaetotaxy as in *bicolor,* outer *ph* wanting as in this species. The alar-declivity is, however, apart from a few exceptions, bare. The *av* are wanting on the mid-tibia of the specimen before me, but it is doubtful if this feature is constant in both species. The hypopygium (Fig. 4) proves the close relationship to *bicolor,* but the cerci are distinctly slender and terminally longer-pointed than in this species.

Male — Eyes with the upper facets of almost equal size; frons narrow, near the tip of the ocellar triangle 1-2 times as broad as the ocellus; frontal stripe black-brown or reddish, strongly dilated towards the antennal groove which shows no carina. Parafrontalia and -facialia silvery dusted, the latter bare of setae, the former with sparse ones and 8-10 pairs of *paf; oc* and *iv* long; antennae yellow-brown, the third joint more or less darkened, about 2½ times as long as the second; antennal groove and buccae densely silvery dusted like the parafacialia. Palpi yellow, slightly dilated terminally.

Thorax with *ac* = 0—1+1, *dc* = 2+3, *ia* = 1+2—3, *ph* = 1 (outer wanting), *h* = 2—3, *prs* = 1, *n* = 2, *sa* = 3, *pa* = 2, scutellum with 3-4 long marginal and one pair of discal bristles, *st* = 1-2:2, 1-2 *pp* and *pst.* Pro- and poststigma blackish-brown. Wings brownish tinged, veins yellow-brown, costal spine long, $r_{4,5}$ dorsally with a few black setae which do not reach *r-m*, R_5 widely open, squama and halter yellow. Abdomen stout, about as long as broad, lateral discal bristles absent.

Female — Colouring as in the male sex. Eyes, at the vertex, separated from each other by about half the eye-length, frons strongly dilated towards the antennal groove, frontal stripe subparallel, chaetotaxy of head complete, with 1*f* and 2 proclinate *fo,* the anterior one mostly shorter and thinner than the posterior *fo.*

Length: 4-7 mm.

Biology: Nothing is known.

Distribution: The description is based on 17 ♂ and 15 ♀ from Robertsport, Liberia, leg. F. M. Snyder, 1942/43. The species is named in honour of its collector. Holotype ♂ and paratypes in the American Museum of Natural History, New York, three pairs of paratypes in the collection of the South African Institute for Medical Research, Johannesburg.

Phumosia costata (Malloch) comb. nov.

Malloch based on this species the genus *Phumolucilia* but the differences are so slight and, as I believe, of little phylogenetic value, that *P. costata* should be united with *Phumosia* R.-D. According to Malloch's description (1929c) the species itself is based on a single male in the "Hamburg State Zoological Museum". This specimen has been destroyed during the last war, so that a neotype is to be created. Fortunately, in the collection of the American Museum of National History, a female specimen from the same locality is present which Dr. Curran kindly forwarded to me. I herewith designate it as neotype.

Malloch describes the *male* as follows:

„ . . . Head black, orbits, face, cheeks, and occiput white-dusted, antennae and palp fuscous. Thorax and abdomen metallic violet-blue, mesonotum slightly white-dusted, pleura largely black, fourth visible tergite of abdomen slightly white-dusted. Legs black. Wings greyish, with a dark brown costal mark from base to apex of submarginal cell, extending over field of wing to, or beyond, middle of that cell. Calyptrae fuscous, white at junction. Halteres fuscous.

Eyes bare, facets enlarged in front, frons linear at middle, setulose on anterior two-thirds, ocellars and inner verticals developed; parafacial not as wide as third antennal segment above, gradually widened below, without any hairs; third antennal segment about 2.5 as long as second; arista plumose; face with two hairs near lower margin in centre; facial ridges setulose on lower half; vibrissal angle slightly produced, cheek nearly as high as length of third antennal segment. Thorax with 2+4 dorsocentrals, the two anterior pairs behind suture short and fine, no presutural acrostichals; one pair of strong prescutellar acrostichals; the prealar rather long, four bristles on the presutural lateral area; prosternum, propleura in centre, supraspiracular convexity, centre of postalar declivity, anterior extremity of the suprasquamal ridge and postnotum below calypter haired. Abdomen ovate, third visible tergite with apical bristles, fourth without discals. Legs normal, mid-tibia with a strong submedian ventral bristle. Venation of wings as in *Phumosia*, the auxiliary vein setulose below close to humeral cross-vein, two or three setulae at base of first vein below, third vein setulose above and below about midway to inner cross-vein.

Length: 8.5 mm.

Type, Buea, Kamerun (C. Bigge). Hamburg State Zoological Museum.

The *female* neotype before me is to be characterized as follows:

Frons at vertex less than half as wide as the longest eye diameter (23:56), parallel in the upper half, slightly widened to the antennal groove, parafrontalium at vertex about half as broad as the frontalstripe, like the parafacialium whitish dusted, frontal stripe black. Face including antennae dark red-brown, but buccae black. The latter about 1/4th of eye-length. Third antennal joint a little more than twice as long as the second, arista with long hairs up to the tip. Chaetotaxy: *iv, ev, oc, f* and 2 *fo* well developed, 10 long parafrontals, parafacialia bare, vibrissa long, lower half of facial ridge bristled, peristomal and buccal hairs long. Palpi brown, spoon-shaped and near the tip almost as broad as the 3rd antennal joint.

Thorax dark violet, metallic shining through a uniform greyish dust, *ac* = 0+1, *dc* = 2+4, *ia* = 1+3, *ph* = 2 (outer present), *h* = 3, *prs* = 1, *n* = 2, *sa* = 3, *pa* = 2, scutellum with 4 pairs of long marginal and 1 pair of weaker discal bristles. Pro- and poststigma black-brown, 1 *pst* and 2 *pp, st* = 1 : 1. Propleura, prosternum and alar declivity densely haired. Wings with the whole costal area black-brown, remaining part light-brown tinged. Costal spine very short, r_{4+5} dorsally with a few setae halfway *r-m*, R_5 open, squamae yellow to dark-brown, halter yellow-brown. Legs reddish brown, fore tibia with a row of short *ad* and a long submedian *av*, mid tibia with one submedian *ad* and *av*, hind tibia with very short and thin bristles which are not clearly distinguished from the normal hairs, tarsi and pulvilli of normal length.

Abdomen coloured as the thorax, marginal bristles of tergites relatively short and thin, no lateral discals.

Length: 8.5 mm.

Biology: Nothing known.

Distribution: Buea, Cameroons, leg. P. Preuss. (American Museum of Nat. History, New York.)

THE STATUS OF THE GENERA KENIA MALLOCH AND KENIELLA MALLOCH.

In 1927 Malloch described from Kenya the new genus *Kenia* of the Calliphorinae which he compared with the Oriental genus *Booponus* and later 1929a) with *Tricyclea* Wulp, to which it is evidently more closely related than to *Booponus*. It is based on *K. flavida* Mall., represented by a single male, which is said to have a broad frons with a pair of well-developed proclinate fronto-orbitals, an arista, short-haired only in the middle third and a "rather evident" postscutellum. This diagnosis is completed in a third paper (1929b) by the addition of a character of the armature of the hind tibia. In *Kenia*, "the two dorsal series of short black setulae are complete from base to apex, a character found in most Tachinidae, while *Tricyclea* the posterior, or inner, series is discontinued or but irregularly represented on the apical half."

In this last paper, Malloch erected a further genus which he named *Keniella* with the single species *K. somereni* Mall., also from Kenya. According to Malloch, this genus "is quite similar to *Kenia*, and appears to be a connecting-link with *Tricyclea*." The male frons is, as in *Kenia*, broad and provided with one pair of fronto-orbitals, but the arista is haired as in *Tricyclea* and all other important features too coincide with those characteristic for this genus. There are no generic features for separating the females.

I have not seen the type of *Kenia flavida* or specimens which could be referred to it. I am not even quite convinced that this species really belongs to the Calliphorinae or, perhaps to the Tachinidae with which it is compared by the author. However, I have recently received two species of *Tricyclea*-like Calliphorinae which undoubtedly belong to *Keniella.* They were collected by my assistant, Mr. H. E. Paterson, in Bechuanaland, February, 1953.

These two species are different from *Keniella somereni,* but probably only one of them is really new. The other one fits the description given by Séguy (1933) for his *Tricyclea claripennis* from Portuguese East Africa so well that I do not hesitate to take it for this species. Up to now therefore three species of *Keniella* are known which may be separated as follows:

1 (2) Wings partly clouded in the costal area and over *r-m;* disc of mesonotum fuscous, pteropleura with a large dark mark, remaining thorax testaceous-yellow; abdomen concolorous with the thorax, but 2nd and 3rd visible tergites with apical black bands extended forward in centre. 6-7 mm., KENYA *Keniella somereni* Malloch.

2 (1) Wings totally hyaline, abdominal tergites totally yellow-brown or spotted only, without uninterrupted bands on the 2nd and 3rd ones .... 3.

3 (4) Mesonotum with a more or less extended black median vitta which does not surpass the dorsocentral bristles; abdominal tergites with small apical spots. Parafacialia with setae only on the outermost base. 4-5 mm., BECHUANALAND *Keniella martini* n. sp.

4 (3) Mesonotum broadly blackened, the vitta reaching the intra-alar bristles; abdomen wholly yellow-brown. Parafacialia with setae on almost the whole length. 4-6 mm., PORTUGUESE EAST AFRICA, BECHUANALAND ...... *Keniella claripennis* (Séguy).

Keniella martini n.sp.

This species is easily recognisable by the features given in the key. The female sex has not been collected but should show, according to the other known *Keniella* species, the same pattern as the male.

Male — Frons slightly widened towards the antennal groove, measuring at the vertex almost half the eye-length; frontal stripe yellow, parallel, parafrontalia and -facialia silvery dusted, the former, at the tip of the ocellar-triangle, half as wide as the frontal stripe. Eyes oval, the inner fects slightly enlarged. Face and buccae whitish yellow, antennae dark yellow, third joint about three times as long as the second, arista with long hairs on both sides but the last fourth to third bare, Buccae almost half as high as the eye. The chaetotaxy consists of long *iv* and *ev,* reclinate *f,* one pair of long divaricated *oc* and one pair of proclinate *fo, pvt* strong, a second pair of weak *oc* present between them and the strong *oc, paf* reach the second antennal joint and consist of 7 pairs; beside them are the parafrontalia, provided with a few blackish setae which do not go further down than the parafrontals; facial ridge on the lower half with a row of black bristles, which continues to the peristome and the occiput, vibrissa long, buccae with only a few short and light-coloured hairs. Palpi yellow, slightly enlarged terminally, setae on them black. Proboscis yellow.

Thorax yellowish, the dorsum more light-brown, the pleura light-yellow, median part of the mesonotum between the dorsocentrals more or less extended black. This pattern is slightly variable and laterally ill-defined, but it is always present and covers at least the area between the presutural and the first two postsutural *oc.* Ventral part of postscutellum and the metanotum black. Chaetotaxy: *ac* = 3+3, and *dc* = 3+4 (1st presutural *ac* and *dc* weak), *ia* = 1+3, *ph* = 2 (outer one wanting), *h* = 3, *prs* = 1, *n* = 2, *sa* = 3, *pa* = 3, scutellum with 3 long and 3 short marginals, furthermore one pair of short discals, one long and one short *pp* and *pst,* *st* = 1 : 1, propleura and prosternum haired, also alar-declivity with a few setae. Pro- and poststigma light yellow like the pleura. Wings wholly hyaline, veins yellow costal spine developed but short, r_5, dorsally with a row of setae which reach *r-m,* R_5 open, *m* terminally scalloped; thoracic squama broad, shaped as in typical *Tricyclea* species, halter yellow. Legs yellow, front tibia with 3 *ad* and one submedian *pv,* mid-tibia with 2 *pv* only, hind-tibia with 2 *ad* and *pd,* claws and pulvilli short.

Abdomen light yellow-brown dorsally like the thorax, the 2nd and 3rd visible tergites with a small black median spot at the apical margin, furthermore with a similar lateral spot, which is present on the 4th segment too. The lateral pair of spots is more or less reduced on the second segment in some of the specimens. Apical margins of the last 3 segments with a few bristles, but discals are wanting, even on the fourth. Hypopygium (fig. 5) very similar to that figured by Malloch (1929b) for his *K. somereni.*

Length: 4-5 mm.

Distribution: 6 ♂♂ from Martin's Drift, Bechuanaland, leg. H. E. Paterson, February, 1953. The species is named in honour of the late Mr. C. W. Martin.

Keniella claripennis (Séguy) comb. nov.

Similar to *K. martini* but, in addition to the pattern on thorax and abdomen, separated by a number of further features. The parafacials are provided with black setae on almost their entire length. The buccae are also beset with black and longer hairs than in *martini.* The front tibia has only 2 *ad* and the mid-tibia an additional submedian *ad*. The hypopygium is differently shaped (Fig. 6).

The one female of this species present does not show any differences from the male, except of course those concerning the postabdomen.

Length: 4-6 mm.

Distribution: 6 ♂♂ and 1 ♀ from the same locality as *K. martini*. Séguy based his description on a ♂ from Chemba, Portuguese East Africa.

All the types are in the collection of the S.A. Institute for Medical Research, Johannesburg.

REFERENCES.

MALLOCH, J. R. (1925). Exotic Muscaridae (Diptera) XVI. Ann. Mag. nat. Hist. (9), **16**, 81.

——————— (1927). Exotic Muscaridae (Diptera) XX. Ann. Mag. nat. Hist. (9), **20**, 385.

——————— (1929a). Exotic Muscaridae (Diptera) XXIV. Ann. Mag. nat. Hist. (10), **3**, 249.

——————— (1929b). Exotic Muscaridae (Diptera) XXVI. Ann. Mag. nat. Hist. (10), **4**, 97.

——————— (1929c). Exotic Muscaridae (Diptera) XXVIII. Ann. Mag. nat. Hist. (10), **4**, 322.

SÉGUY, E. (1928). Etudes sur les mouches parasites et les formes voisines. II. Les espèces typiques des genres *Somomyia* et *Pycnosoma*. Encycl. Ent. Ser. B.II Dipt. **4**, 101.

——————— (1933). Contributions à l'étude de la faune du Mozambique. Voyage de M.P. Lesne (1928-1929). 13e note — Diptères (2e partie). Mem. Mus. Zool. Univ. Coimbra (1), No. 67, 5.

VILLENEUVE, J. (1914). Descriptions d'espèces africaines nouvelles du genre *Chrysomyia* Rob. Desv. Bull. Soc. ent. Fr., 177.

ZUMPT, F. (1953). *Phumosia schoutedeni* n. sp., with remarks on the status of the genus *Phumosia* R.-D. (Diptera: Calliphorinae). Rev. Zool. Bot. Afric. (in Press).